

Service Manual



DOLBY* SYSTEM HI-FI CASSETTE DECK WITH HPF* HEAD AND AUTO STOP



RS-610US MECHANISM SERIES

MODEL **RS-610US** MODEL **RS-610USD**

SPECIFICATIONS

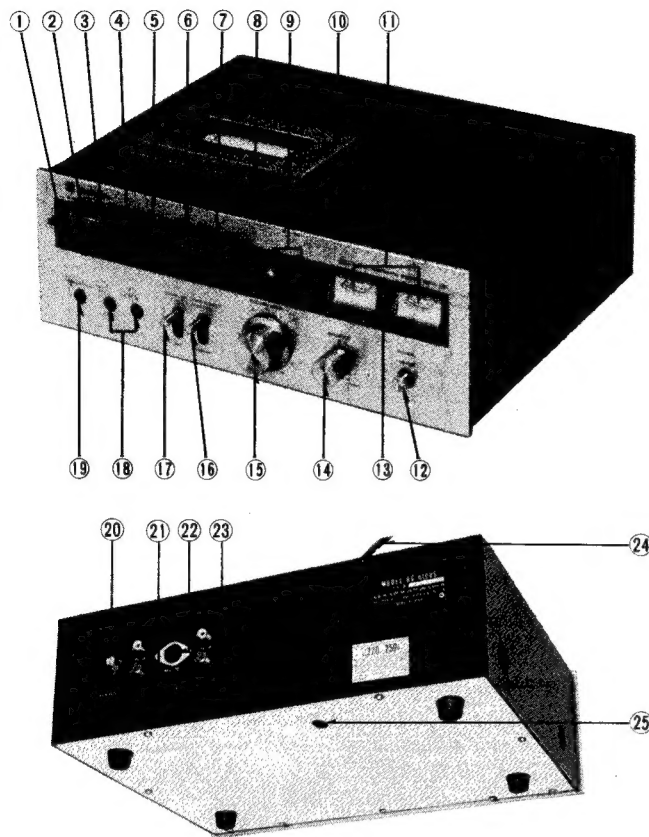
Power Source:	AC: 90~109, 110~125, 200~219, 220~250 volts, 50/60 Hz	Signal to Noise Ratio:	Dolby NR OUT: 49 dB
Power Source:	AC: 220 volts, 50/60 Hz		Dolby NR IN: 59 dB at 10 KHz
Power Consumption:	Approx. 8 W	Wow & Flutter:	0.12% (WRMS), $\pm 0.25\%$ (DIN45507)
Motor:	Electronic speed control motor	Inputs:	2-MIC 0.3 mV/applicable
Transistors:	2SC1327(4) 2SC644(2) 2SC828(14) 2SA564(2) 2SC1347(3) 2SK37(2)		MIC impedance 200~600 Ω
Diodes & Rectifiers:	OA90Z(6) 1S1211(6) EQA0108(1) SIB0102(2)	Outputs:	1-DIN 0.3 mV/2 K Ω
Recording System:	AC bias, 85 kHz		2-LINE 60 mV/470 K Ω
Erase System:	AC erase		1-DIN 420 mV/3 K Ω
Track System:	4-track, 2channel stereo		2-LIN 420 mV/50 K Ω
Tape Speed:	4.8 cm/s (1-7/8 ips.)		1-HEADPHONE 8 Ω
Frequency Response:	20~14,000 Hz (with normal tape)	Fast Forward and Rewind Time:	Approx 90 seconds with C-60 cassette tape
	20~16,000 Hz (with CrO ₂ tape)	Dimensions:	336mm(W) \times 116mm(H) \times 290mm(D)
			13-1/4" (W) \times 4-1/8" (H) \times 11-1/2" (D)
		Weight:	Approx. 6 kg (13-1/4 lbs.)

These specifications are subject to change in order to accommodate improvements in design.

Matsushita Electric Industrial Co., Ltd.
MATSUSHITA ELECTRIC TRADING CO., LTD.
P.O. Box 288 Central, Osaka, Japan



LOCATION OF PARTS



- ① Eject button
- ② Record button
- ③ Rewind button
- ④ Fast forward button
- ⑤ Playback button
- ⑥ Stop button
- ⑦ Pause button
- ⑧ Head cover
- ⑨ Tape counter and reset button
- ⑩ Cassette cover
- ⑪ Level meters
- ⑫ Power switch
- ⑬ Record indicator
- ⑭ Balance control
- ⑮ Record level control
- ⑯ Tape selector
- ⑰ Dolby NR switch
- ⑱ Microphone jacks
- ⑲ Headphone jack
- ⑳ Earth terminal
- ㉑ LINE OUT jacks
- ㉒ Record/playback connection socket
- ㉓ LINE IN jacks
- ㉔ AC power cord
- ㉕ AC voltage selector switch (RS-610US only)

Fig. 1

DISASSEMBLY INSTRUCTION

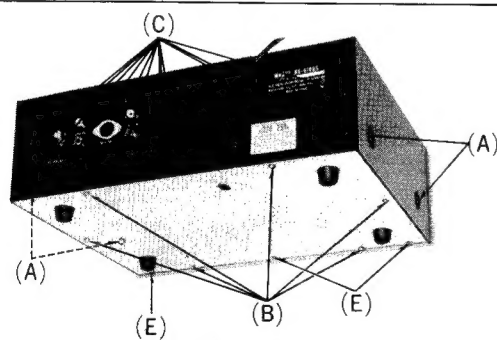


Fig. 2

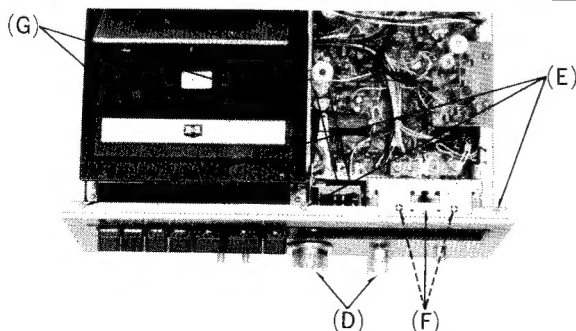


Fig. 3

HOW TO REMOVE TOP COVER AND BOTTOM PLATE

1. Remove 4 top cover holding screws (A) and remove the top cover (See fig. 2.)
2. Remove 6 bottom board holding screws (B) and remove the bottom plate.

HOW TO REMOVE BACK BOARD

1. Remove 12 back board holding screws (C) and remove the back board (See fig. 3.)

HOW TO REMOVE FRONT PANEL

1. Remove 2 knobs (D) shown in figs. 3 and 6 front panel holding screw (E) shown in figs. 2 and 3.
2. Remove 3 level meter holding screws (F) and remove the front panel (See fig. 3).

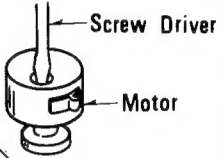
HOW TO REMOVE CASSETTE CASE ASSEMBLY

1. Remove 2 screws (G) and remove the cassette case assembly (See fig. 3).

MECHANICAL ADJUSTMENTS

Instruments required:

Spring gauge (having a range of 0~1 kgr), cassette torque meter (RP-8063N), wow & tape speed test tape (C-WAN), Digital frequency counter, Wow meter.

ITEM	MODE	SPEC.	MEASUREMENT METHOD	ADJUSTMENT METHOD	REMARKS
Pressure roller adjustment.	Playback	400 ± 50 gr	Hook the spring gauge to pressure roller lever and pull it in the direction of the arrow as shown in fig. 4.	Adjust by bending the (a) part of the pressure roller spring.	Measure the value at the moment when the pressure roller moves away the capstan.
Measurement & adjustment of takeup tension.	Playback	55 ± 15 gr-cm	Mount the cassette torque meter in the same way as the cassette tape. The take up tension is shown as in fig. 5.	Turning the plate spring, adjust frictional force. See fig. 6.	—
Tape speed deviation.	Playback	$\pm 3\%$ or less	Playback 3 kHz test tape (C-WAN) and read the frequency with digital frequency counter.	Speed adjustment VR (inside motor).	
Wow & flutter. (RMS)	Playback	0.12% or less	Playback 3 kHz test tape (C-WAN) and read with the wow meter.	—	
Measurement of detecting piece tension.	Playback	50 ± 10 gr	Press part A of the detecting piece in a straight line in the direction of the arrow, as shown in fig. 7.	Adjust by bending the (b) part of the detecting piece spring.	—

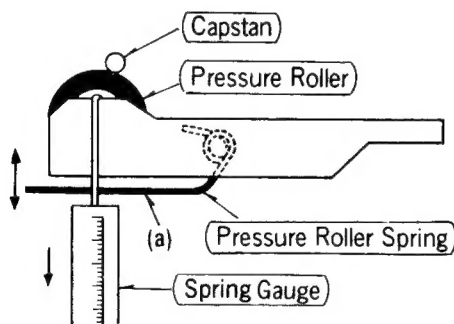


Fig. 4

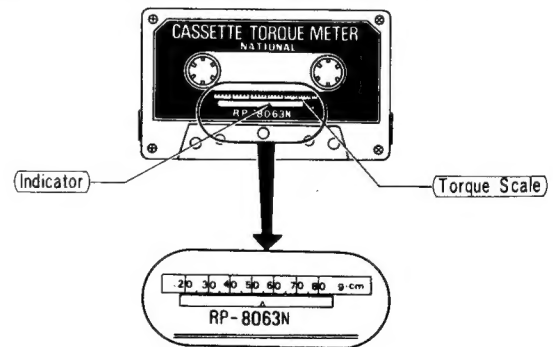


Fig. 5

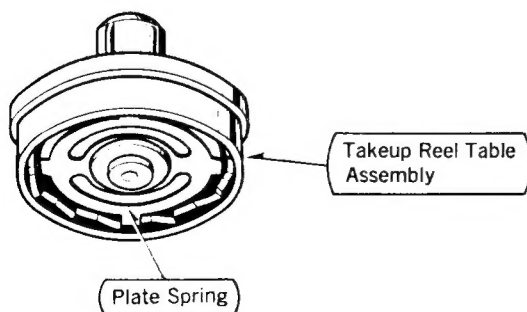


Fig. 6

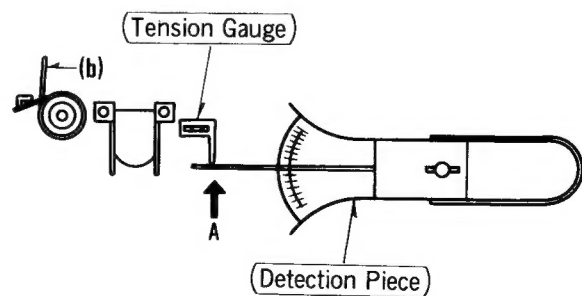


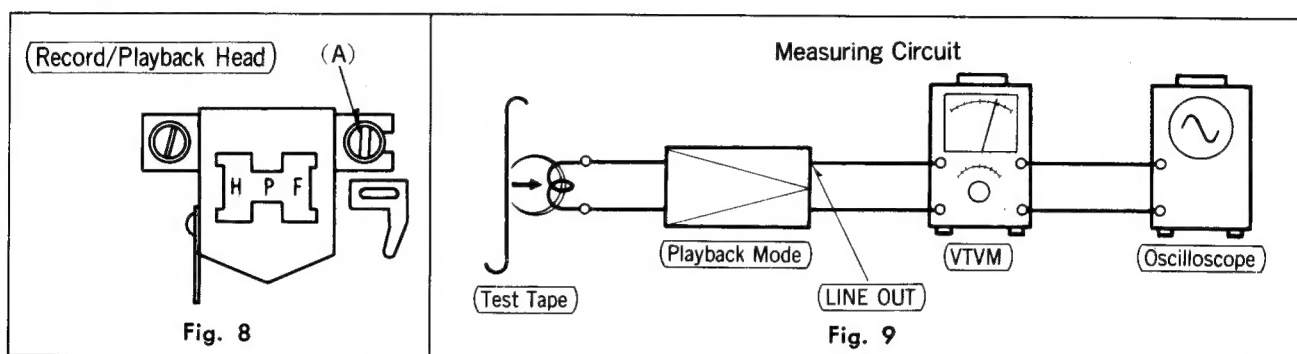
Fig. 7

ELECTRICAL ADJUSTMENTS

HEAD AZIMUTH ADJUSTMENT

(1) Method

1. Test equipments connection is shown in fig. 9.
2. Play azimuth tape (C-AAN 6.3 kHz).
3. Adjust R/P head angle adjust screw (A) in fig. 8 so that output at the LINE OUT jack become maximum.
(When adjusting the R/P head, set the playback VR and tone VR to maximum).
4. After adjustment, lock the head adjust screw with lacquer.



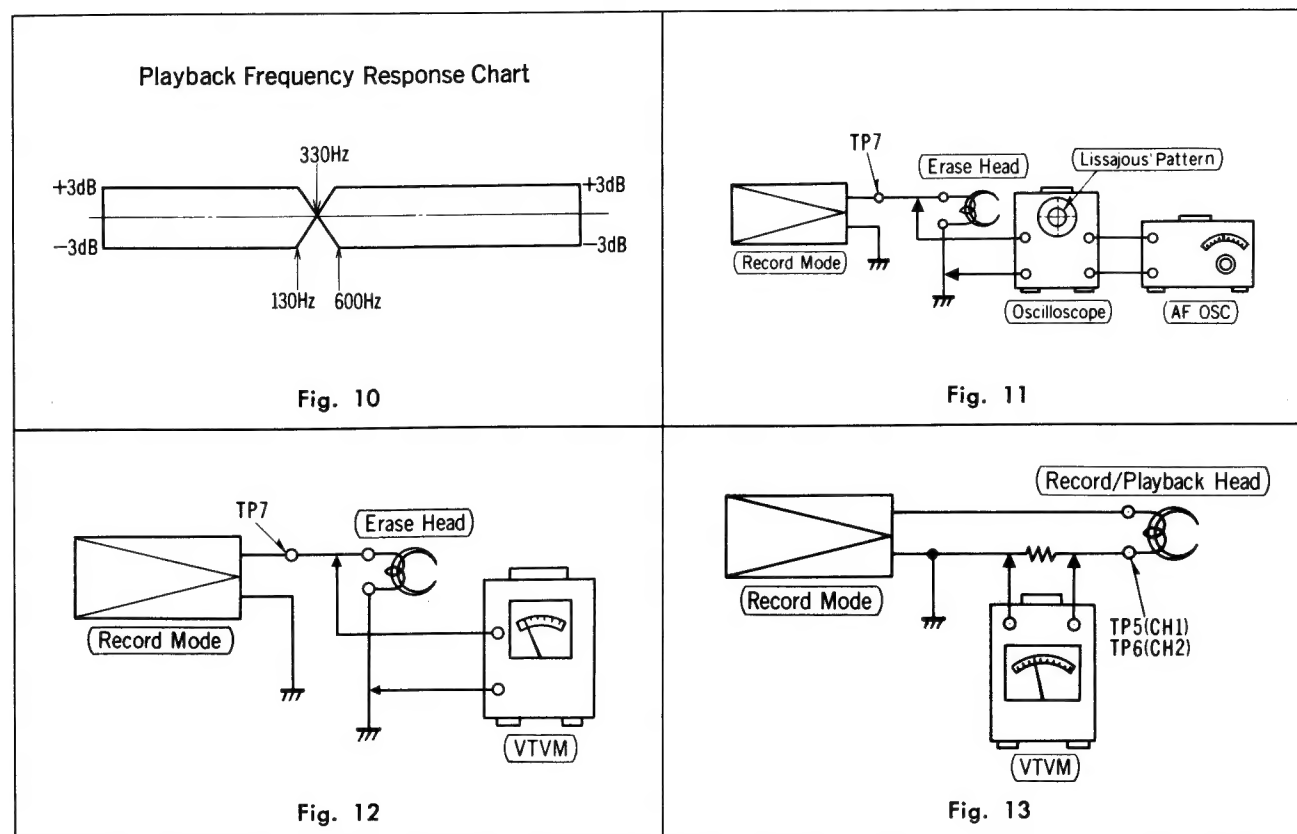
AMPLIFIER ADJUSTMENTS

Measurement condition

Record level controlMaximum
Tape selectorNormal

Dolby NR SwitchOUT

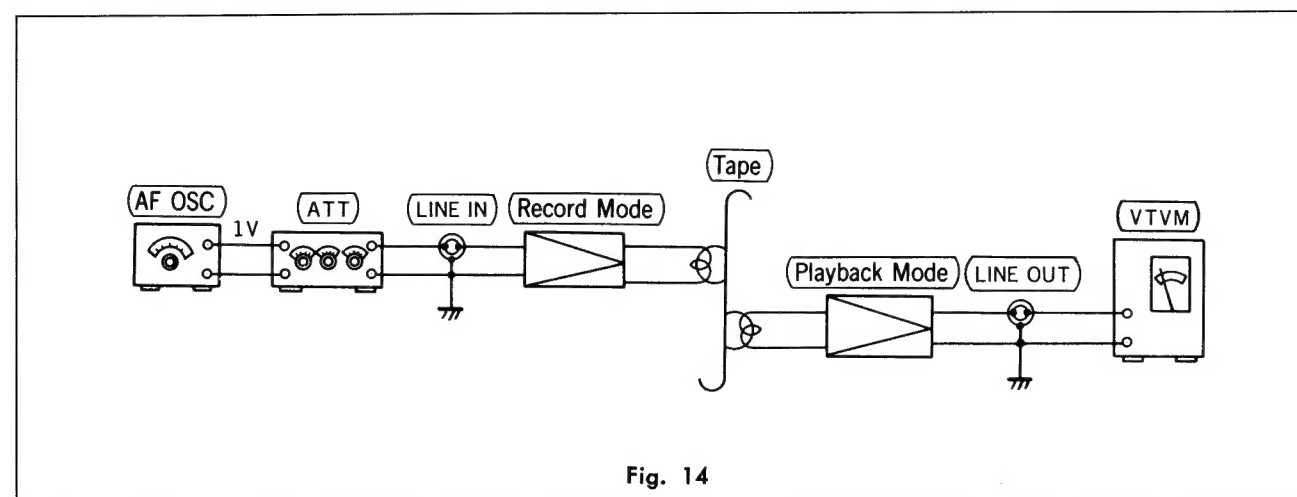
	ITEM	SIGNAL SOURCE CONNECTION	OUTPUT CONNECTION	MODE	ADJUSTMENT	SPEC.	REMARKS
1	Playback frequency response.	Playback the test tape C-FDN.	VTVM to LINE OUT jack.	Playback	VR1 (CH1) VR2 (CH2)	See fig. 10.	—
2	Playback gain.	Playback the test tape C-FDN.	VTVM to LINE OUT jack.	Playback	VR3 (CH1) VR4 (CH2)	0.42 ± 0.08 V	The frequency of test tape is 333 Hz.
3	Bias oscillation frequency.	—	Oscilloscope with AF OSC to TP7.	Record	—	84 ± 7 kHz	See fig. 11.
4	Erase current.	—	VTVM to TP7 See fig. 12.	Record	—	Greater than 15 V.	Record level control: Minimum.
5	Recording bias current.	—	VTVM to TP5 (CH1) TP6 (CH2) See fig. 13.	Record	L7 (CH1) L8 (CH2) See fig. 16.	$2 \text{ mV} \pm 0.5 \text{ mV}$	Record level control: Minimum.
6	Bias trap coil adjustment.	—	VTVM to TP1 (CH1) TP2 (CH2)	Record	L1 (CH1) L2 (CH2) See fig. 16.	Minimum	Use plastic adjusting driver.
7	Standard recording level.	Refer to "Standard Recording Level Adjustment" on next page.					
8	Level meter adjustment.	Same as above.	VTVM to LINE OUT jack.	Record	VR13 (CH1) VR14 (CH2) See fig. 16.	0 VU on VU meter.	At 0.42 V of LINE OUTPUT.
9	Overall frequency.	Refer to "Overall Frequency Response Adjustment" on next page.					



STANDARD RECORDING LEVEL ADJUSTMENT

NOTE: Use the test tape C-RA-30.

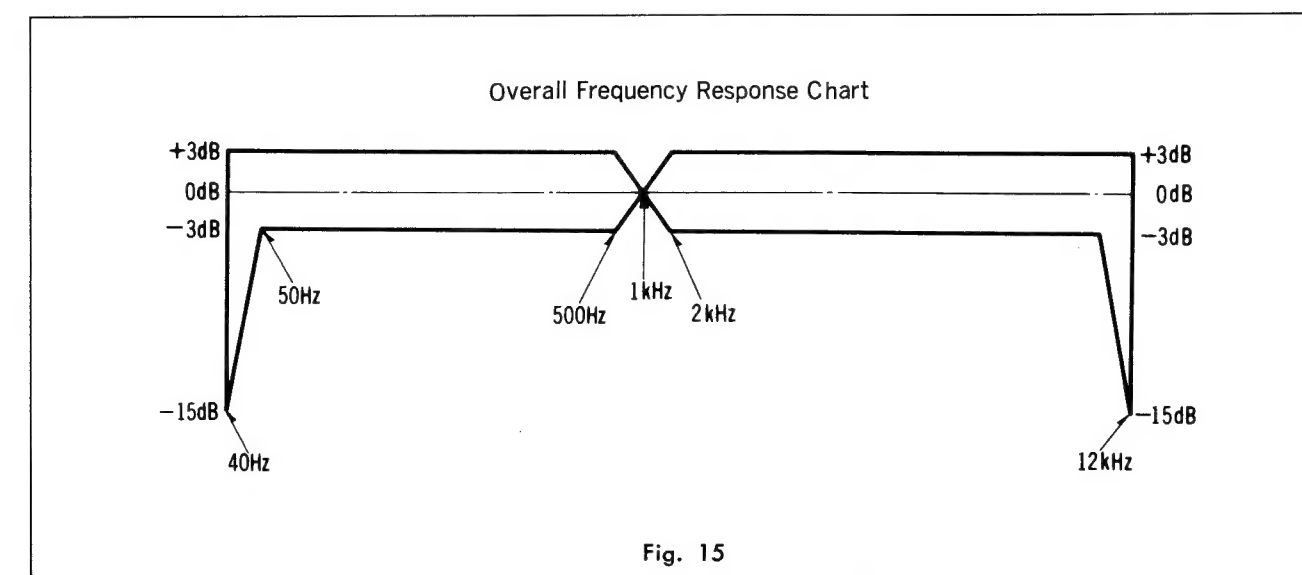
1. Wiring is shown in fig. 14.
2. From the LINE IN jack, supply signals -24 ± 3 dB (60 mV) and record it (1 kHz).
3. Play the tape, read output on the VTVM and make sure that the measured value is -7 dB (0.42 V).
4. When it is not in condition above, adjust VR15 (CH1) or VR16 (CH2).
5. Repeat step 2 and 3 above.



OVERALL FREQUENCY RESPONSE ADJUSTMENT

NOTE: Use the test tape C-RA-30.

1. Wiring is shown in fig. 14.
2. From the LINE IN jack, supply signals 20 dB lower than the level at which the VU meter indicates 0 VU. Varying oscillator frequency and record 40 Hz~12 kHz.
3. Play the tape, read output at each frequency on the VTVM and make sure that the measured value is within the range specified in the frequency response chart (fig. 15).
4. If the value at 10 kHz is outside the range, adjust L5 (for CH1) or L6 (for CH2). When L5 and L6 have to be adjusted largely, readjust playback frequency response in Step 1, placing both of them in the satisfactory condition.
5. If frequency response cannot be made satisfactory by adjusting L5 and L6 only, check each circuit or adjust the head azimuth adjustment.



DOLBY NR CIRCUIT ADJUSTMENT

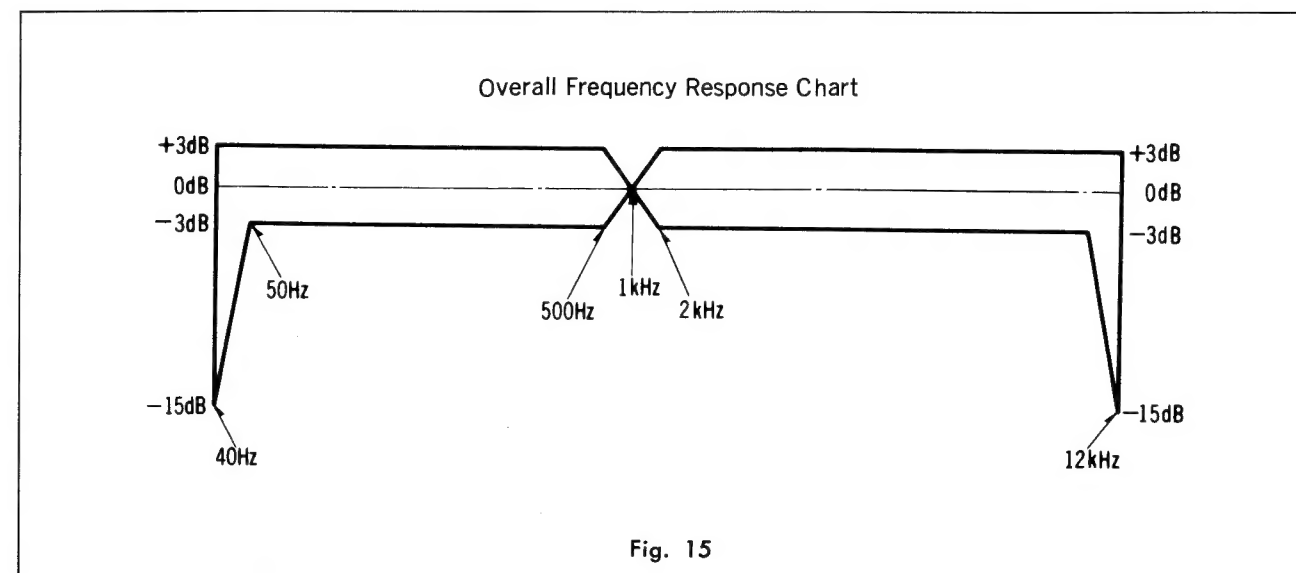
Before adjustment of DOLBY* NR circuit, confirm that each value in item 7 and 8 on page 3 is within standard.

1. Place the set into the recording mode, set the DOLBY NR switch to OUT position and supply input to LINE IN jack to obtain -35 dB at TP3 (CH1), and TP4 (CH2). (frequency 5 kHz)
2. Confirm that the value at IN position is 8 dB greater than at OUT position of DOLBY NR switch.
3. When it is not in condition above, adjust as follows.
4. Set VR9, VR10, VR11 and VR12 to maximum.
5. Set the DOLBY NR switch to IN position.
6. Adjusting VR11 (for CH1) and VR12 (for CH2), make the reading of VTVM at TP3 (for CH1) and TP4 (for CH2) become 10 dB greater than the value in 1 above.
7. Adjusting VR9 (for CH1) and VR10 (for CH2), make the reading of VTVM at TP3 (for CH1) and TP4 (for CH2) become 2 dB smaller than the value obtained through the adjustment in 6 above.

OVERALL FREQUENCY RESPONSE ADJUSTMENT

NOTE: Use the test tape C-RA-30.

1. Wiring is shown in fig. 14.
2. From the LINE IN jack, supply signals 20 dB lower than the level at which the VU meter indicates 0 VU. Varying oscillator frequency and record 40 Hz~12 kHz.
3. Play the tape, read output at each frequency on the VTVM and make sure that the measured value is within the range specified in the frequency response chart (fig. 15).
4. If the value at 10 kHz is outside the range, adjust L5 (for CH1) or L6 (for CH2). When L5 and L6 have to be adjusted largely, readjust playback frequency response in Step 1, placing both of them in the satisfactory condition.
5. If frequency response cannot be made satisfactory by adjusting L5 and L6 only, check each circuit or adjust the head azimuth adjustment.

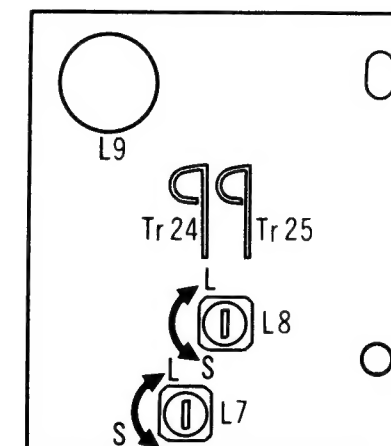
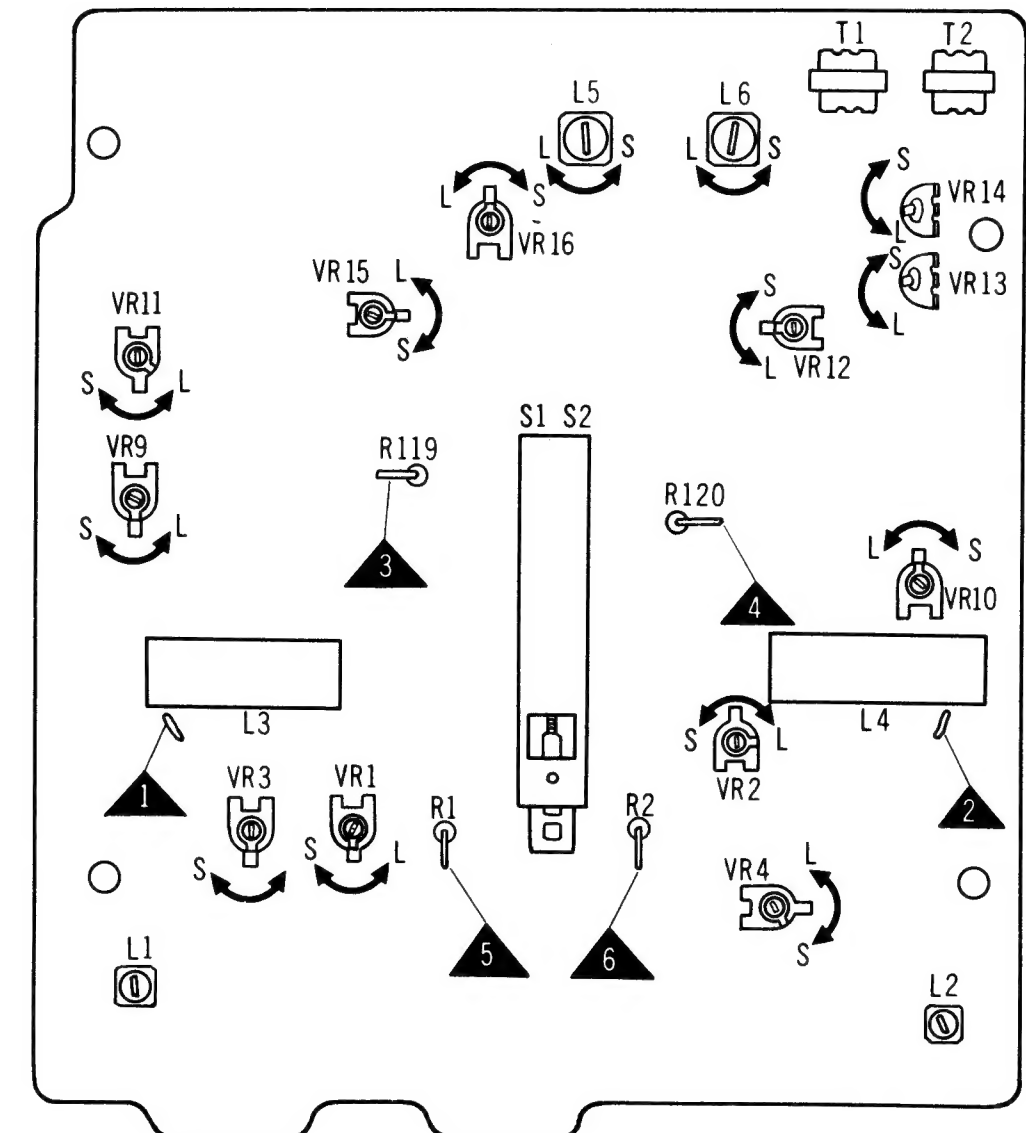


DOLBY NR CIRCUIT ADJUSTMENT

Before adjustment of DOLBY* NR circuit, confirm that each value in item 7 and 8 on page 3 is within standard.

1. Place the set into the recording mode, set the DOLBY NR switch to OUT position and supply input to LINE IN jack to obtain -35 dB at TP3 (CH1), and TP4 (CH2). (frequency 5 kHz)
2. Confirm that the value at IN position is 8 dB greater than at OUT position of DOLBY NR switch.
3. When it is not in condition above, adjust as follows.
4. Set VR9, VR10, VR11 and VR12 to maximum.
5. Set the DOLBY NR switch to IN position.
6. Adjusting VR11 (for CH1) and VR12 (for CH2), make the reading of VTVM at TP3 (for CH1) and TP4 (for CH2) become 10 dB greater than the value in 1 above.
7. Adjusting VR9 (for CH1) and VR10 (for CH2), make the reading of VTVM at TP3 (for CH1) and TP4 (for CH2) become 2 dB smaller than the value obtained through the adjustment in 6 above.

ADJUST PARTS LOCATION



Note:

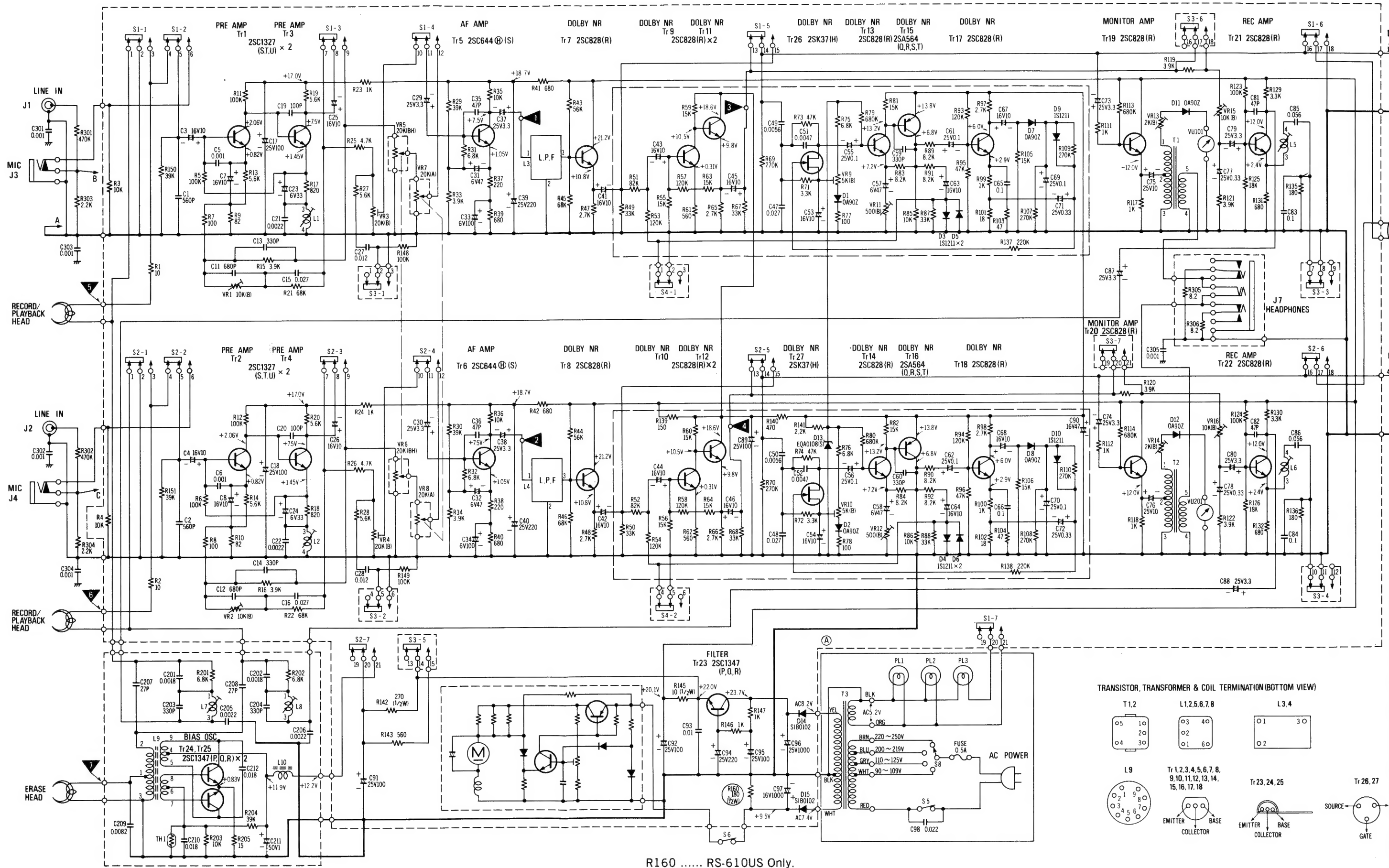
The marks by the arrow of VR and coil show the relation between the direction and adjustment value.

L: Large S: Small

Fig. 16

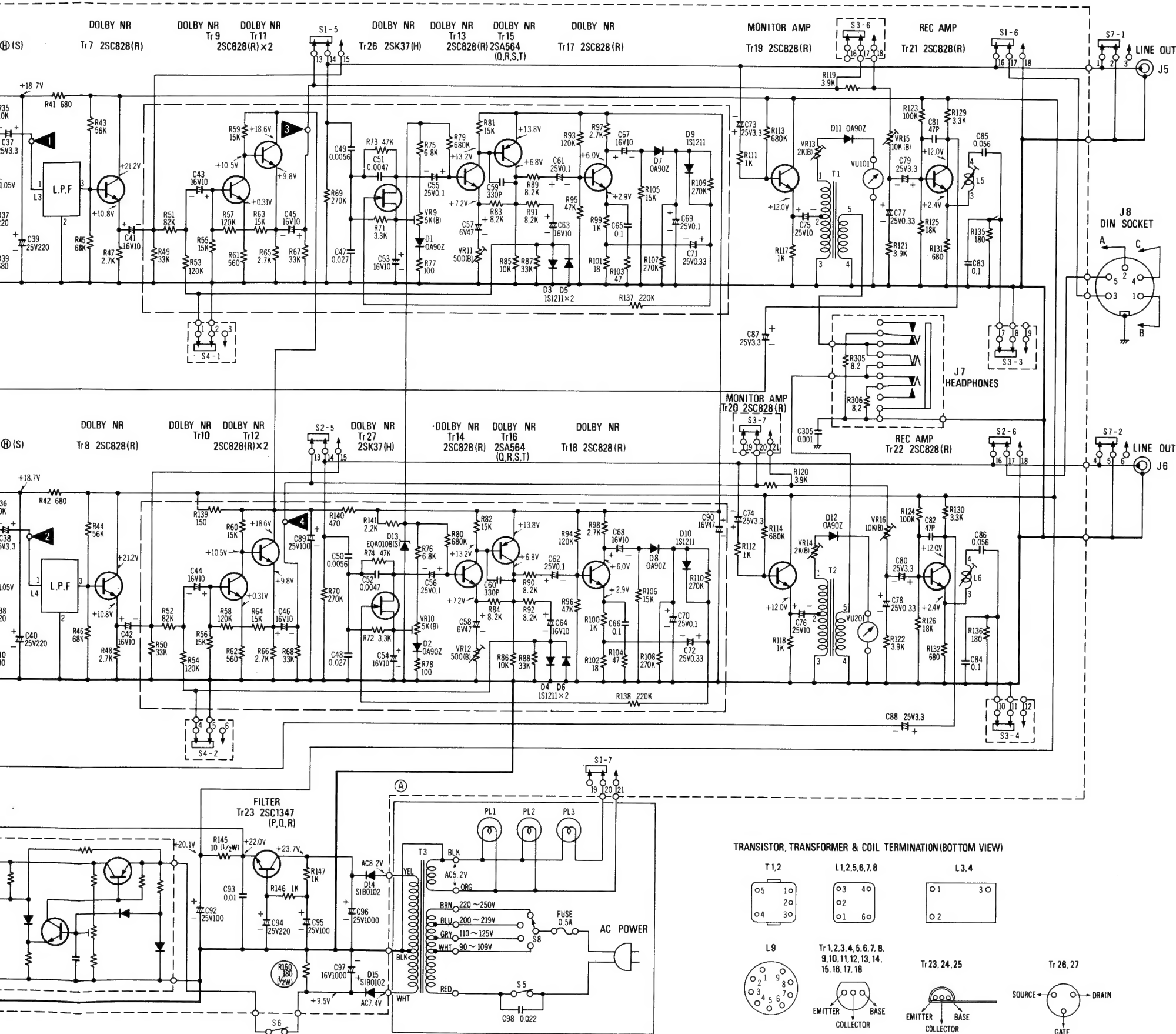
* Dolby is the trade mark of Dolby Laboratories Inc.

SCHEMATIC DIAGRAM MODEL RS-610US & RS-610USD



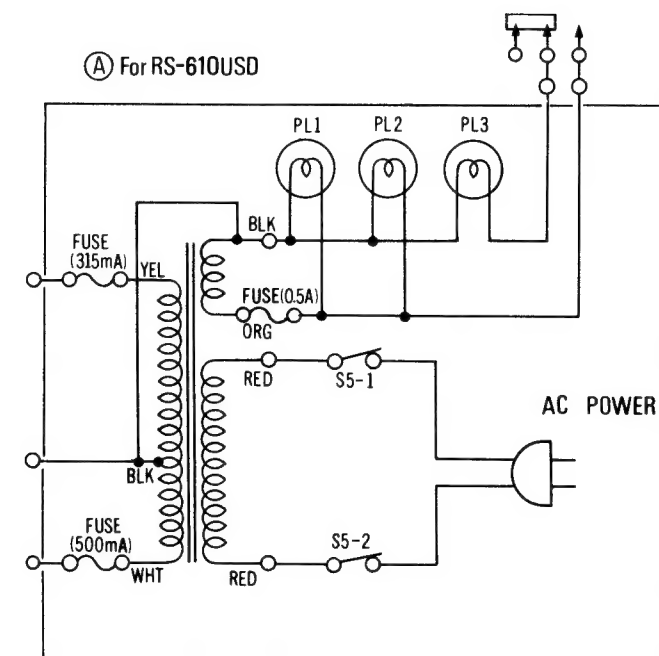
R160 RS-610US Only.

OUS & RS-610USD



R160 RS-610US Only.

(A) For RS-610USD

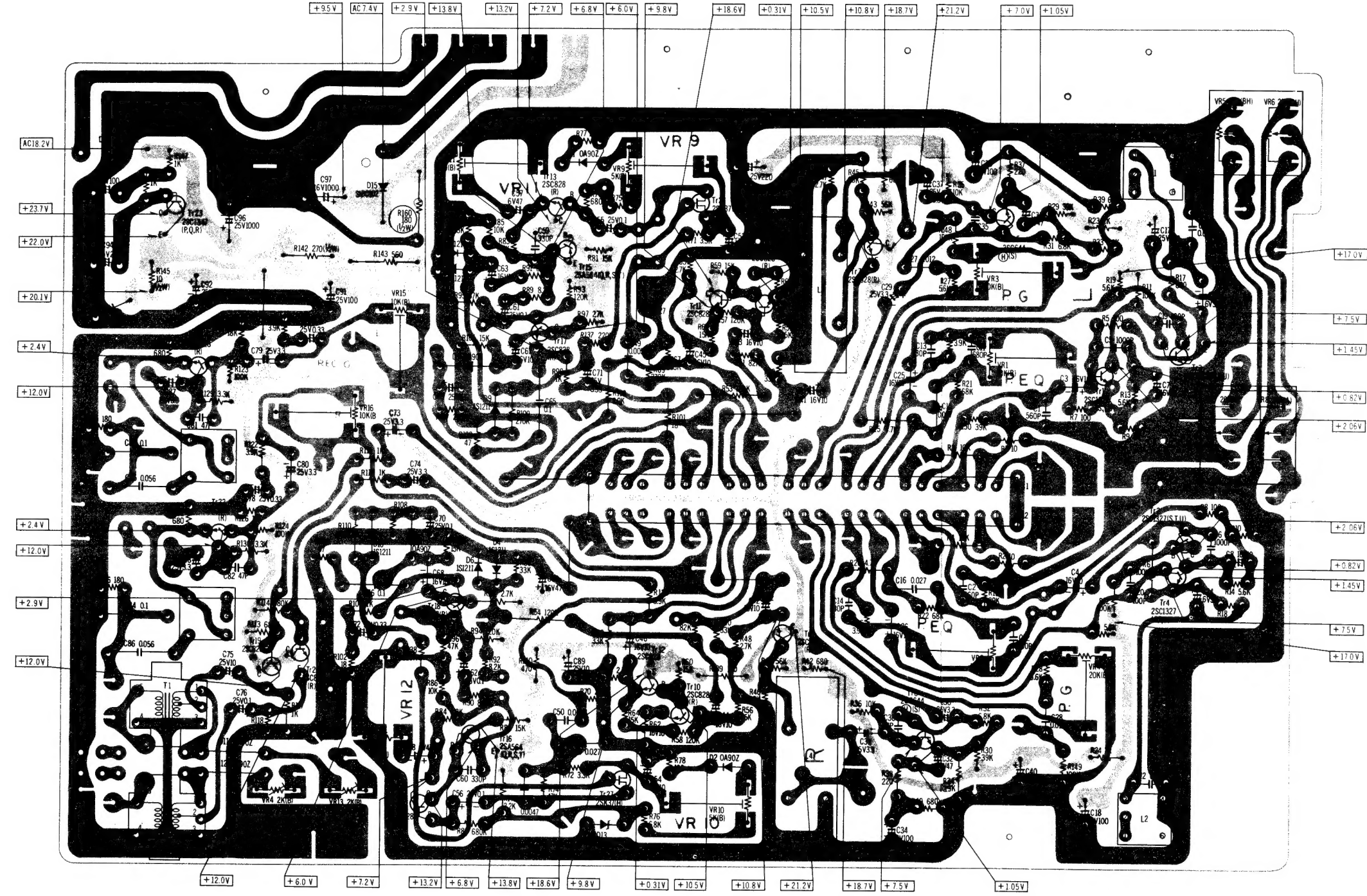


NOTE:

- S1-1~S1-7, S2-1~S2-7 ... Record/playback select switch (shown in playback position).
- S3-1~S3-7 Tape select switch (shown in normal position).
- S4-1, S4-2 Dolby noise reduction circuit IN/OUT switch.
- S5 Power ON/OFF switch.
- S6 Motor ON/OFF switch.
- S7-1, S7-2 Muting switch.
- S8 Voltage select switch.
- VR1, VR2 Playback equalizer adjustment VR.
- VR3, VR4 Playback adjustment VR.
- VR5, VR6 Record balance control.
- VR7, VR8 Record level control.
- VR9~VR12 Noise reduction circuit adjustment VR.
- VR13, VR14 VU meter adjustment VR.
- VR15, VR16 Record level adjustment VR.
- PL1, PL2 Pilot lamp for level meter.
- PL3 Record indicator.
- Resistor values are in ohms (Ω), 1/4 watt unless specified otherwise. K=1,000 Ω .
- Capacitor values are in microfarads (μF) unless specified otherwise. P=Pico-farads.
- The mark (\blacktriangledown) shows test point. e.g. \blacktriangledown = Test point 1.
- All measurements are under no signal conditions with volume at minimum position. Use VTVM for voltage measurements.
- Abbreviation of color indications for power transformer termination. BLK: Black, BLU: Blue, BRN: Brown, GRY: Gray, ORG: Orange, RED: Red, WHT: White, YEL: Yellow.

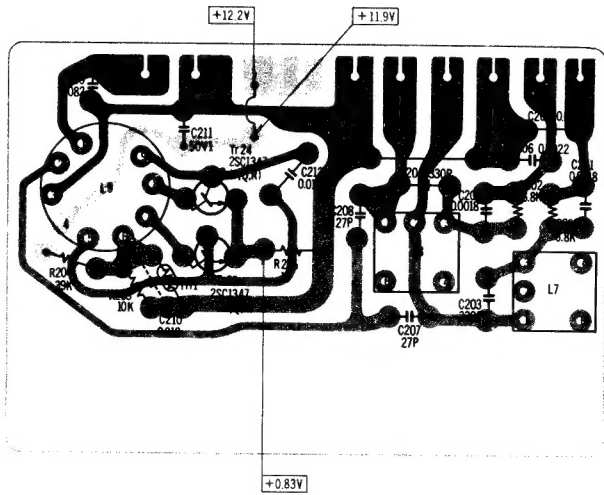
CIRCUIT BOARD

MAIN CIRCUIT BOARD



R160 RS-610US Only.

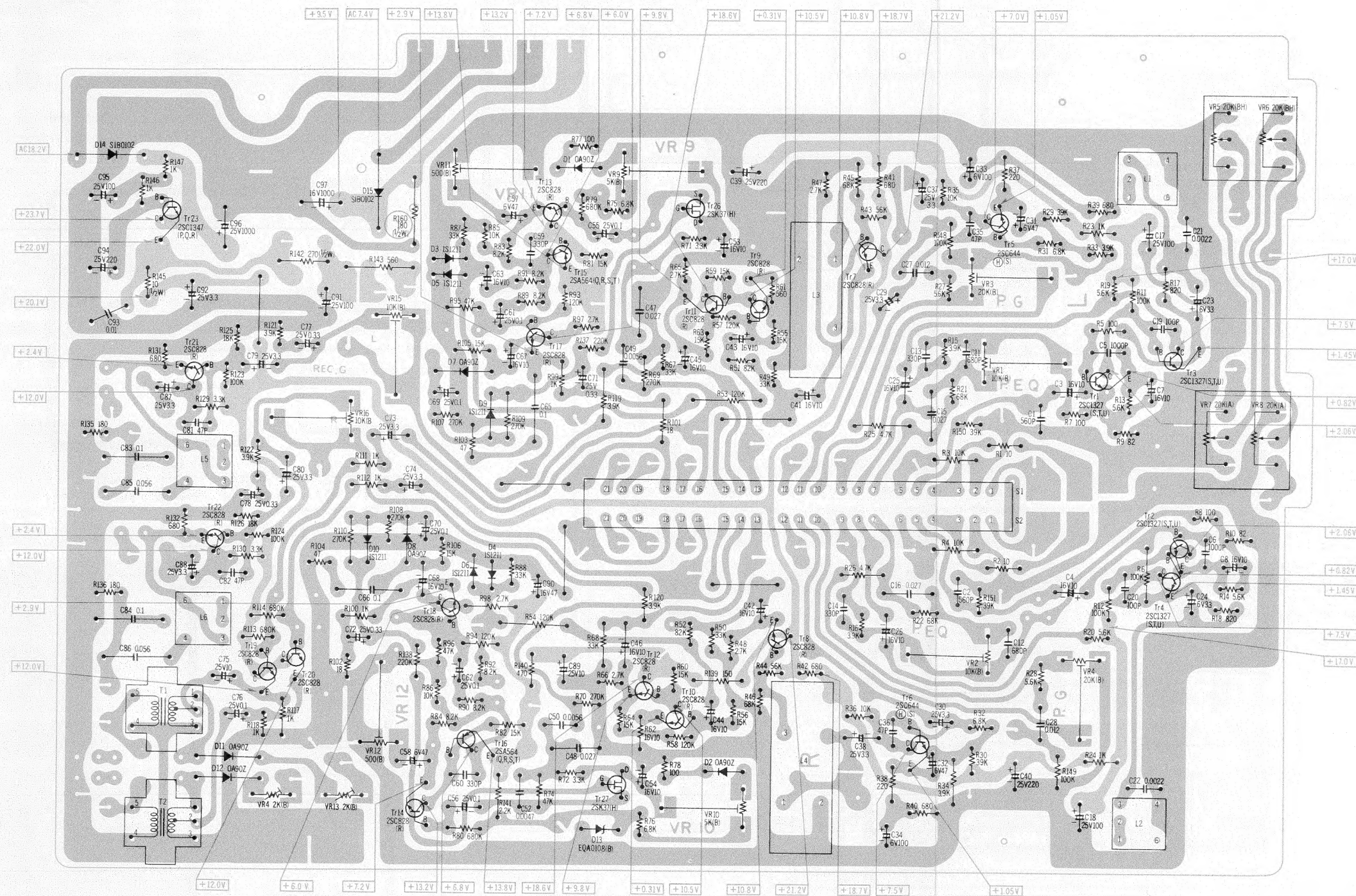
OSCILLATOR CIRCUIT BOARD



NOTE:
The circuit shown in green on the conductor is +B circuit.
Values indicated in are DC voltages between the chassis and electrical parts.

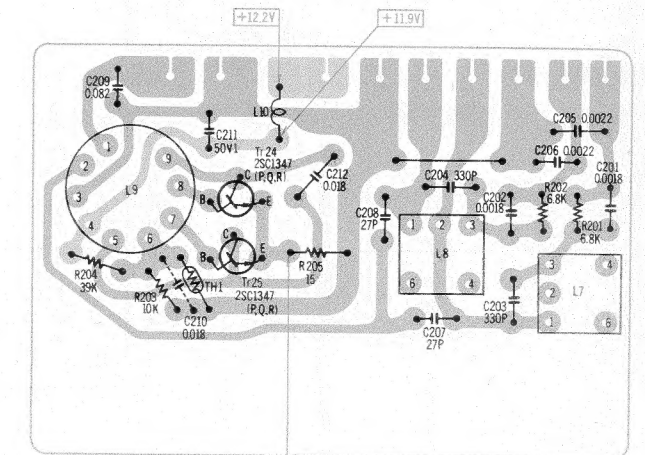
CIRCUIT BOARD

MAIN CIRCUIT BOARD



R160 RS-610US Only.

OSCILLATOR CIRCUIT BOARD

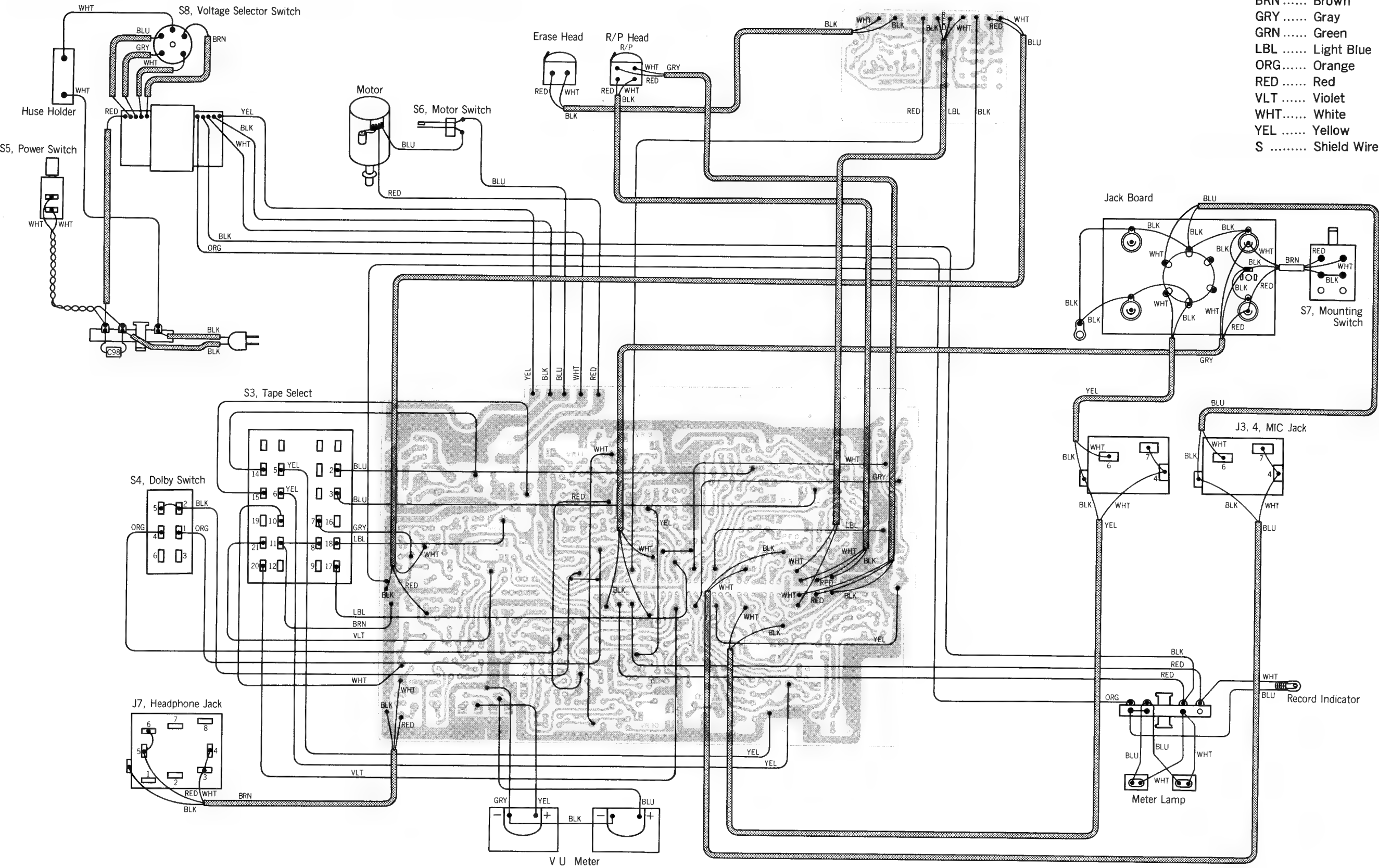


NOTE:

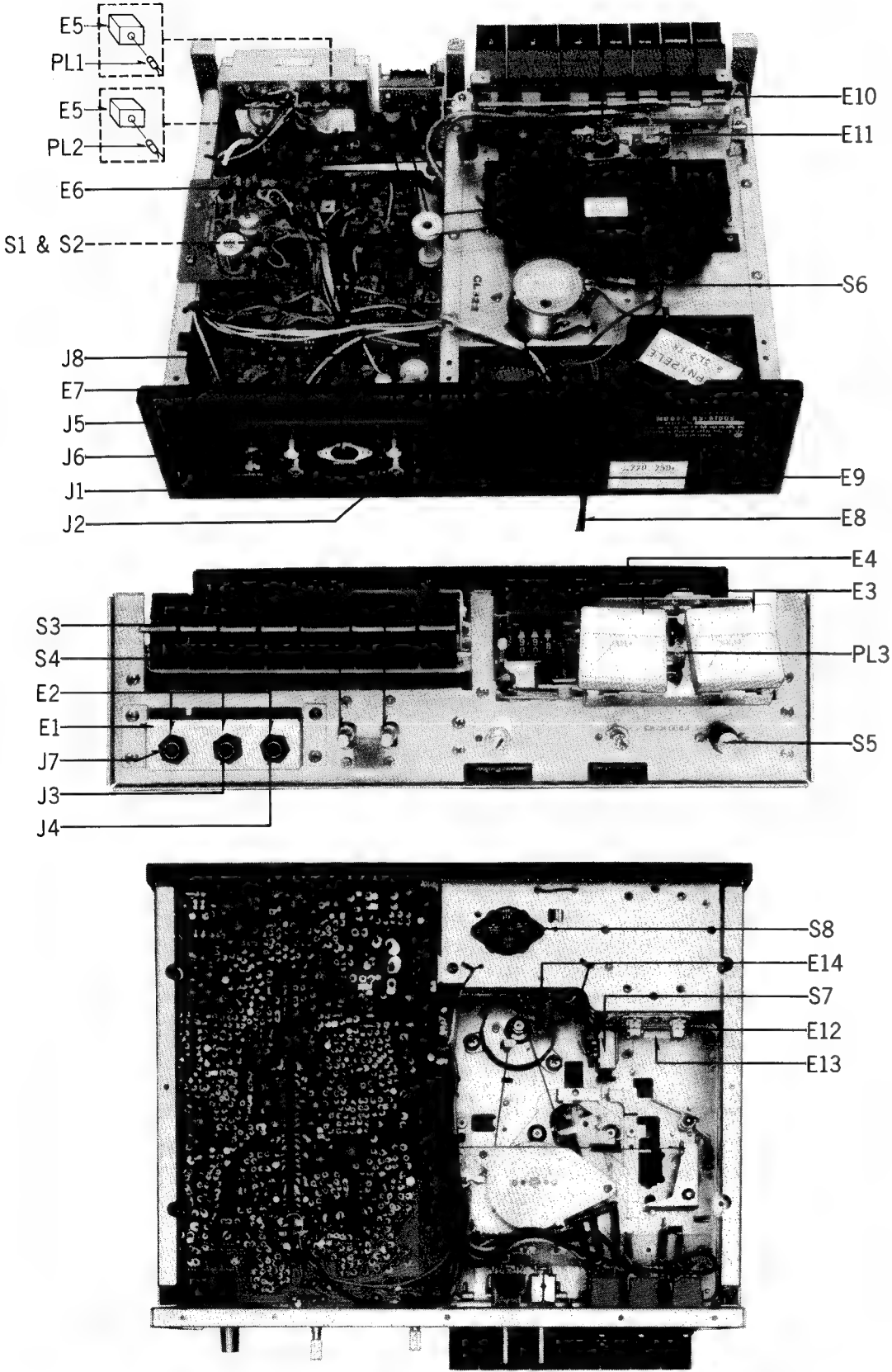
The circuit shown in green on the conductor is +B circuit.
Values indicated in are DC voltages between the chassis and electrical parts.

WIRING CONNECTION DIAGRAM MODEL RS-610US

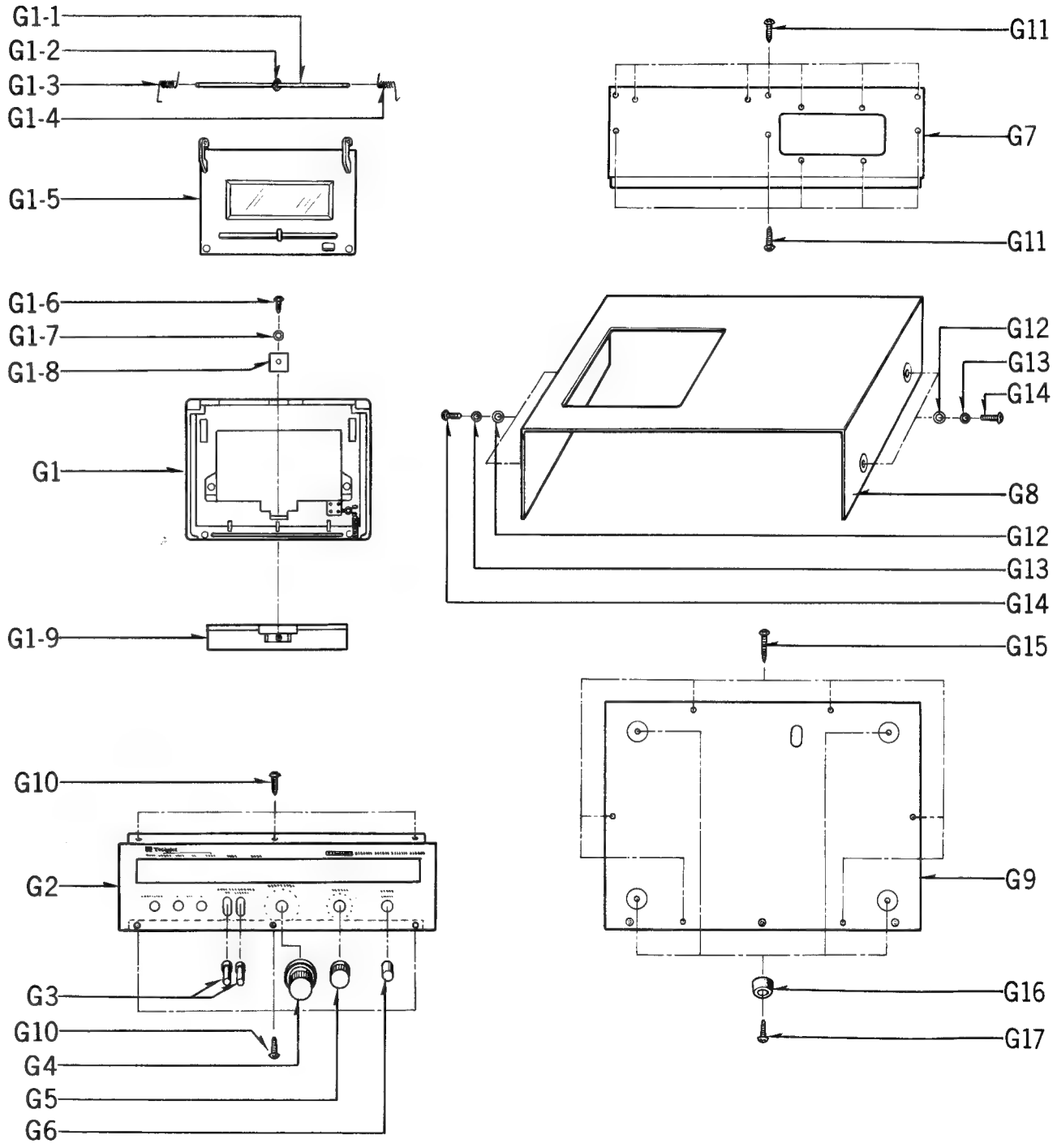
- NOTE:
- BLK Black
 - BLU Blue
 - BRN Brown
 - GRY Gray
 - GRN Green
 - LBL Light Blue
 - ORG Orange
 - RED Red
 - VL T Violet
 - WHT White
 - YEL Yellow
 - S Shield Wire



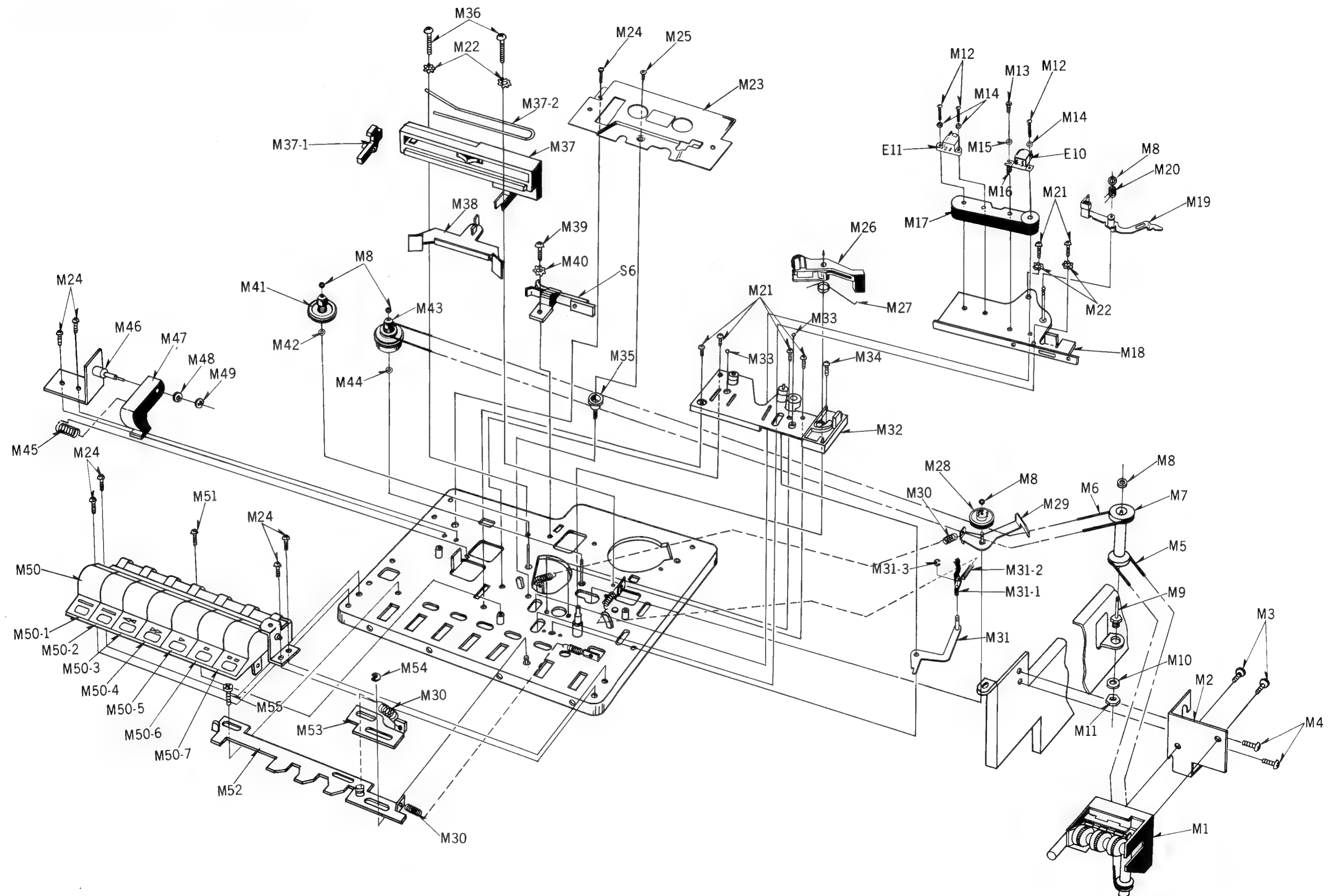
ELECTRICAL PARTS LOCATION

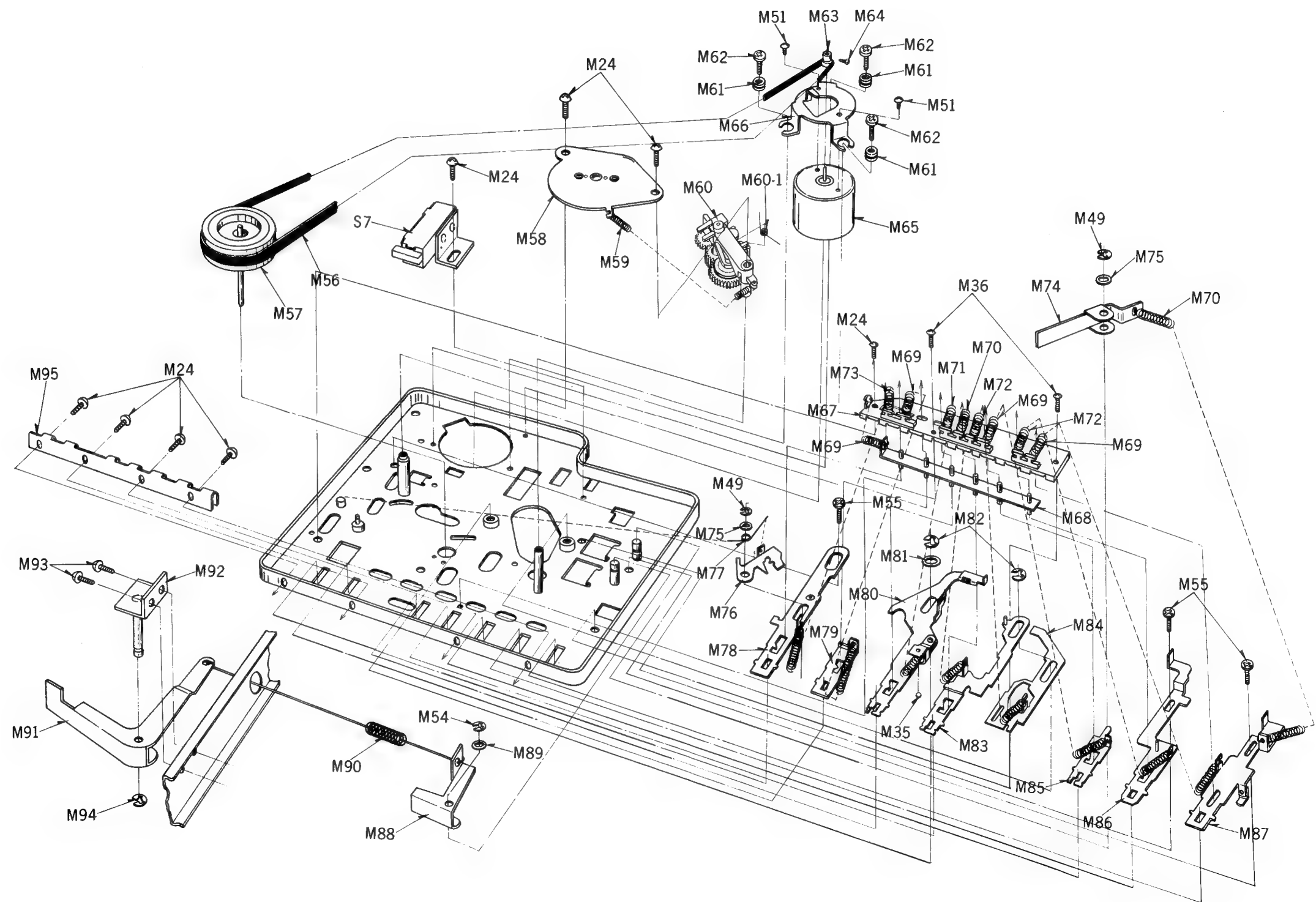


CABINET PARTS



EXPLODED VIEWS

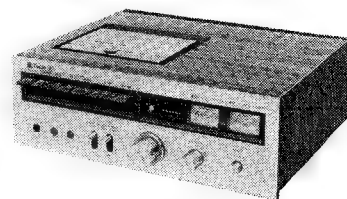




REPLACEMENT PARTS LIST

MODEL RS-610US & RS-610USD

National Panasonic



RS-610US
RS-610USD

NOTE:

1. Be sure to make your orders of Replacement Parts according to this List.
2. "A, B and C" in "Rank" Column indicates the recommended stock of replacement parts. Refer to the recommended stock table on last page.
3. "N" in "Remarks" Column indicates New Parts.
4. "ISO" in "Remarks" Column indicates ISO Screw or Nut.
5. "G" in indicates the serrated parts with 18 notches.

NOTA:

1. Habrá que asegurarse que los pedidos de piezas de repuesto se hagan según esta lista.
2. "A, B y C" marcadas en la columna "Rank" indican el surtido que se recomienda tener de dichas piezas de repuesto.
3. "N" marcado en la columna "Remarks", quiere decir que las piezas son nuevas.
4. "ISO" marcado en la columna "Remarks", quiere decir que es un tornillo o tuerca "ISO".
5. "G" indica las partes dentadas con 18 ranuras.

NOTE:

1. Bien s'assutet de se conformer à la liste suivante pour les commandes de pièces de rechange.
2. "A, B et C", dans la colonne "Rank", indiquent le stock recommandé de pièces de rechange. Se reporter en dernière page au tableau des stocks/recommandés.
3. "N", dans la colonne "Remarks", indique les pièces nouvelles.
4. "ISO", dans la colonne "Remarks", indique une vis ou un écrou ISO.
5. "G" indique les pièces cannelées à 18 crans.



HINWEIS:

1. Bestellen Sie Ihre Ersatzteile genau nach dieser Liste.
2. "A, B und C" in der "Rank" Spalte zeigt Ihnen den Vorrat der Ersatzteile an.
3. "N" in der "Remarks" Spalte bedeutet "neue Teile".
4. "ISO" in der "Remarks" Spalte bedeutet ISO-Schraube oder Mutter.
5. "G" bezeichnet die gezähnten Teile mit 18 Zähnen.

按:

1. 關於代用零件之訂購，務請依照此表而行之為荷。
2. 「等級」(Rank) 一欄中之 "A, B, C" 標記表示該零件有存貨，值得介紹。
請參照最後一頁的「值得介紹存貨表」。
3. 「備考」(Remarks) 一欄中之 "N" 形符號標記表示該零件為新出品。
4. 「備考」(Remarks) 一欄中之 "ISO" 符號標記表示國際標準化機構 (ISO) 式螺絲或螺母。
5. "G" 形符號標記表示備有18個凹槽的鋸齒狀零件。

NOTE : Ref. No. enclosed in () indicate the parts that are used for RS-610USD.

Rank	Ref. No.	Description	Part No.	Pcs/ Set	Price (Per Pce.)		Remarks
		<u>MECHANICAL PARTS</u>					
A	M1	Memory Tape Counter	QXCM0002	1			N 
C	M2	Counter Angle	QMAM0046	1			N
C	M3	Sems Screw $\oplus 3 \times 6$	XYN3+C6S	2			COMMON 
C	M4	Screw $\oplus 3 \times 6$	XTV3+6B	2			"
A	M5	Counter Belt-A	QDB0124	1			N
A	M6	Counter Belt-B	QDB0207	1			N
B	M7	Counter Connection Pulley	QDP1603	1			N
C	M8	Nylon Snap Washer	QWQ1124	5			COMMON
C	M9	Counter Connection Pulley Shaft	QXSM0001	1			N
C	M10	Spring Washer 5ϕ	XWA5B	1			COMMON
C	M11	Nut 5ϕ	XNG5E	1			"
C	M12	Screw $\ominus 2 \times 12$	XSN2-12	3			"
C	M13	Head Azimuth Adjust Screw	QHQ1199	1			N
C	M14	Spring Washer 2ϕ	XWA2B	3			COMMON
C	M15	Washer 2ϕ	XWE2	1			"
B	M16	Head Adjust Spring	QBC1207	1			RQ-432S, RS-263US, 271US
B	M17	Head Spacer	QBJ2087	1			N
B	M18	Head Base Plate Unit	QXK1484	1			N
C	M19	Detecting Lever Assembly	QXL0482	1			RQ-448FJS, RS-260US
C	M19-1	Detecting Piece	QBJ1538	1			RQ-309S, 413S, RS-263US
C	M20	Auto Stop Spring	QBN1390	1			N
C	M21	Screw $\oplus 2.6 \times 6$	XSN26+6	2			COMMON
C	M22	Lock Washer 2.6ϕ	XWC26B	4			"
A	M23	Mechanism Panel Ornament	QMF1708	1			N
C	M24	Sems Screw $\oplus 2.6 \times 6$	XYN26+C6	15			COMMON
C	M25	Screw $\oplus 2.6 \times 5$	XSS26+5Z	1			"
C	M26	Pressure Roller Lever Assembly	QXLM010	1			N
C	M27	Pressure Roller Spring	QBN1389	1			N
B	M28	Idler	QXI0050	1			N
C	M29	Idler Lever	QMLM011	1			N
C	M30	Idler Spring	QBT1558M	2			RQ-448FJS, RS-272US
C	M31	Auto Stop Drive Lever Assembly	QXL0621	1			RS-260US
C	M31-1	Auto Stop Drive Pawl	QBJ1656	1			RQ-448FJS, RS-267S

**RS-610US
RS-610USD**

NOTE: Ref. No. enclosed in () indicate the parts that are used for RS-610USD.

Rank	Ref. No.	Description	Part No.	Pcs/ Set	Price (Per Pce.)		Remarks
A	M31-2	Auto Stop Spring	QBT1489M	1			RQ-443S, RS-267S
C	M31-3	Stop Ring 2.5φ	XUC25FK	1			COMMON
B	M32	Upper Base Assembly	QXK1331	1			RQ-421DS
C	M33	Steel Ball	QDK1012	3			RQ-309S, 432S, RS-260US, 263US
C	M34	Sems Screw $\oplus 2.6 \times 10$	XYN26+C10	3			COMMON
C	M35	Pole	QMP1530	1			N
C	M36	Screw $\oplus 2.6 \times 10$	XSN26+10	2			COMMON
B	M37	Cassette Retainer Assembly	QXQK0015	1			RS-260US
A	M37-1	Erase Safty Lever	QBJ1975	1			RQ-309S
C	M37-2	Brake Spring	QBS1057	1			RQ-421DS
B	M38	Brake	QBJ1941	1			RQ-421DS, RS-260US
C	M39	Screw $\oplus 2 \times 5$	XSN2+5	1			COMMON
C	M40	Lock Washer 2φ	XWC2B	1			"
A	M41	Supply Reel Table Assembly	QXP0320	1			RQ-309S, 436S
C	M42	Reel Table Washer	QBFM0005	1			N
A	M43	Takeup Reel Table Assembly	QXP0395	1			N
C	M44	Nylon Washer	QBJ3220	1			RQ-309S, 413S, RS-260US, 263US
C	M45	Cassette Up Spring	QBNM0006	1			N
C	M46	Cassette Up Shaft	QXA0307	1			N
C	M47	Cassette Up	QKJ0055	1			N
C	M48	Fiber Washer 3.2×6×0.25	QBK7122	1			N
C	M49	Stop Ring 2φ	XUC2FK	3			COMMON
B	M50	Push Button Assembly	QXB0247	1			N
B	M50-1	Eject Button	QGOM0014	1			N
B	M50-2	Record Button	QGOM0013	1			N
B	M50-3	Rewind Button	QGOM0012	1			N
B	M50-4	Fast Forward Button	QGOM0011	1			N
B	M50-5	Playback Button	QGOM0009	1			N
B	M50-6	Stop Button	QGOM0008	1			N
B	M50-7	Pause Button	QGOM0010	1			N
C	M51	Sems Screw $\oplus 2.6 \times 3$	XSN26+3	3			COMMON
C	M52	Operation Rod	QMR1412	1			N
C	M53	Operation Lever-C	QMR1411	1			N
C	M54	Stop Ring 3φ	XUC3FK	2			COMMON
C	M55	Screw	QHQ1168	4			RQ-443DS, RS-260US

RS-610US
RS-610USD



NOTE: Ref. No. enclosed in () indicate the parts that are used for RS-610USD.

Rank	Ref. No.	Description	Part No.	Pcs/ Set	Price (Per Pce.)		Remarks
A	M56	Flywheel Belt	QDB0141	1			COMMON
C	M57	Flywheel Assembly	QXF0063	1			RQ-421DS, RS-267S
C	M58	Flywheel Retainer Unit	QXH0095	1			RQ-448FJS, RS-267S
C	M59	Fast Forward Lever Spring	QBT1485M	1			"
B	M60	Fast Forward Frame Assembly	QXG1014A	1			(N)
B	M60-1	Fast Forward Frame Spring	QBN1196	1			RQ-413S, RS-267S
C	M61	Rubber Cushion	QBG1055A	3			RQ-237JS, RS-260US
C	M62	Screw	QMS1833	3			COMMON
A	M63	Motor Pulley	QDP1378B	1			(N)
C	M64	Screw $\oplus 2 \times 3$	XSN2 + 3	1			COMMON
A	M65	Motor	MHI5R9C	1			(N)
C	M66	Motor Angle	QMA1952	1			RS-260US
C	M67	Lever Guide	QGG0050	1			(N)
C	M68	Lock Rod Assembly	QXH0194	1			(N)
C	M69	Stop Lever Spring	QBT1580M	4			RQ-448FJS
C	M70	Fast Forward/Pause Lever Spring	QBT1484M	2			RQ-432S, 443S
C	M71	Playback Lever Spring	QBT1536M	1			RQ-421DS, 448FJS
C	M72	Record Lever Spring	QBT1486M	2			RQ-448FJS, RS-267S
C	M73	Eject Lever Spring-C	QBT1604M	1			RQ-412DS, RS-260US
C	M74	Eject Lever-A	QML2712	1			(N)
C	M75	Fiber Washer $3.2 \times 6 \times 0.5$	QBK7121	2			COMMON
B	M76	Lock Plate	QML2379	1			RS-260US, 271US
C	M77	Lock Plate Spring	QBN1271	1			"
C	M78	Pause Lever	QXL0826	1			(N)
C	M79	Stop Lever	QML2715	1			(N)
C	M80	Playback Lever	QXRM0002	1			(N)
C	M81	Fiber Washer $6.2 \times 11 \times 1$	QBK7130	1			RQ-309S, 413S, RS-260US, 263US
C	M82	Stop Ring 5ϕ	XUC5FK	2			COMMON
C	M83	Fast Forward Lever	QXLM0011	1			(N)
C	M84	Fast Forward Rod	QMR1307	1			RS-260US
C	M85	Rewind Lever	QML1953	1			RS-267US
C	M86	Record Lever	QXL0828	1			(N)
C	M87	Eject Lever	QXL0827	1			(N)
C	M88	Record Lever-A	QML2717	1			(N)
C	M89	Fiber Washer $4.2 \times 6 \times 0.5$	QBK7075	1			RS-735US

NOTE: Ref. No. enclosed in () indicate the parts that are used for RS-610USD.

Rank	Ref. No.	Description	Part No.	Pcs/ Set	Price (Per Pce.)		Remarks
C	M90	Record/Playback Connection Spring	QBTM0003	1			(N)
C	M91	Record/Playback Lever-B	QMLM0029	1			(N)
C	M92	Hook Plate Holder Unit	QMAM0043	1			(N)
C	M93	Tapping Screw $\oplus 3 \times 8$	XTV3+8B	2			COMMON
C	M94	Stop Ring 3ϕ	XUC3FK	1			"
C	M95	Lock Rod Retainer	QMA2373	1			(N)
		<u>RESISTORS</u>					
B	R1, 2	Carbon Resistor 10 Ω 1/4 W	ERD14VJ100	2			
B	R3,4,35,36,85, 86,203	" 10 K Ω 1/4 W	ERD14VJ103	7			
B	R5, 6, 11, 12, 123, 124, 148, 149	" 100 K Ω 1/4 W	ERD14VJ104	8			
B	R7, 8, 77, 88	" 100 Ω 1/4 W	ERD14VJ101	4			
B	R9, 10	" 82 Ω 1/4 W	ERD14VJ820	2			
B	R13,14,19,20, 27,28	" 5.6 K Ω 1/4 W	ERD14VJ562	6			
B	R15, 16, 33, 34, 119, 120, 121, 122	" 3.9 K Ω 1/4 W	ERD14VJ392	8			
B	R17, 18	" 820 Ω 1/4 W	ERD14VJ821	2			
B	R21,22,45,46	" 68 K Ω 1/4 W	ERD14VJ683	4			
B	R23, 24, 99, 100, 111, 112, 117, 118, 146, 147	" 1 K Ω 1/4 W	ERD14VJ102	10			
B	R25, 26	" 4.7 K Ω 1/4 W	ERD14VJ472	2			
B	R29, 30, 150, 151, 204	" 39 K Ω 1/4 W	ERD14VJ393	5			
B	R31,32,75,76, 201,202	" 6.8 K Ω 1/4 W	ERD14VJ682	6			
B	R37, 38	" 220 Ω 1/4 W	ERD14VJ221	2			
B	R39,40,41,42, 131,132	" 680 Ω 1/4 W	ERD14VJ681	6			
B	R43, 44	" 56 K Ω 1/4 W	ERD14VJ563	2			
B	R47,48,65,66, 97,98	" 2.7 K Ω 1/4 W	ERD14VJ272	6			
B	R49,50,67,68, 87,88	" 33 K Ω 1/4 W	ERD14VJ333	6			
B	R51, 52	" 82 K Ω 1/4 W	ERD14VJ823	2			
B	R53,54,57,58, 93,94	" 120 K Ω 1/4 W	ERD14VJ124	6			
B	R55, 56, 59, 60, 63, 64, 81, 82, 105, 106	" 15 K Ω 1/4 W	ERD14VJ153	10			
B	R61, 62, 143	" 560 Ω 1/4 W	ERD14VJ561	3			
B	R69,70,107, 108,109,110	" 270 K Ω 1/4 W	ERD14VJ274	6			

NOTE: Ref. No. enclosed in () indicate the parts that are used for RS-610USD.



Rank	Ref. No.	Description	Part No.	Pcs/ Set	Price (Per Pce.)		Remarks
B	R71, 72, 129, 130	Carbon Resistor 3.3 K Ω 1/4 W	ERD14VJ332	4			
B	R73, 74, 95, 96	" 47 K Ω 1/4 W	ERD14VJ473	4			
B	R79, 80, 113, 114	" 680 K Ω 1/4 W	ERD14VJ684	4			
B	R83, 84, 89, 90, 91, 92	" 8.2 K Ω 1/4 W	ERD14VJ822	6			
B	R101, 102	" 18 Ω 1/4 W	ERD14VJ180	2			
B	R103, 104	" 47 Ω 1/4 W	ERD14VJ470	2			
B	R125, 126	" 18 K Ω 1/4 W	ERD14VJ183	2			
B	R135, 136	" 180 Ω 1/4 W	ERD14VJ181	2			
B	R137, 138	" 220 K Ω 1/4 W	ERD14VJ224	2			
B	R139	" 150 Ω 1/4 W	ERD14VJ151	1			
B	R140	" 470 Ω 1/4 W	ERD14VJ471	1			
B	R141, 303, 304	" 2.2 K Ω 1/4 W	ERD14VJ222	3			
B	R142	Solid Resistor 270 Ω 1/2 W	ERC12GK271	1			
B	R145	" 10 Ω 1/2 W	ERC12GK100	1			
B	R160	" 180 Ω 1/2 W	ERC12GK181	1			(RS-610US only)
B	R205	Carbon Resistor 15 Ω 1/4 W	ERD14VJ150	1			
B	R301, 302	" 470 K Ω 1/4 W	ERD14VJ474	2			
B	R305, 306	" 8.2 Ω 1/4 W	ERD14VJ8R2	2			
		<u>VARIABLE RESISTORS</u>					
A	VR1, 2	Semi-fixed Variable Resistor 10 K Ω (B)	QVLO1AA00B14	2			N
A	VR3, 4	" 20 K Ω (B)	EVLS3AA00B24	2			RS-209US, 271US
A	VR5, 6	Variable Resistor 20 K Ω (BH)	EVK49AK30703	1			N 
A	VR7, 8	" 20 K Ω (A)	EVKR1AK25A24	1			N 
A	VR9, 10	Semi-fixed Variable Resistor 5 K Ω (B)	EVLS3AA00B53	2			N
A	VR11, 12	" 500 Ω (B)	QVL00AA00B52	2			N
A	VR13, 14	" 2 K Ω (B)	EVLT0AA00B23	2			RS-802US, 845US
A	VR15, 16	" 10 K Ω (B)	QVL00AA00B24	2			N
		<u>CAPACITORS</u>					
C	C1, 2	Styrol Capacitor 560 pF	ECQS1561KZ	2			
B	C3, 4, 7, 8, 25, 54, 63, 64, 67, 68	26, 41, 42, 43, 44, 45, 46, 53, 68					
		Electrolytic Capacitor 10 μ F	ECEA16V10L	18			
C	C5, 6, 301, 302, 303, 304, 305						
		Ceramic Capacitor 0.001 μ F	ECKD1H102M	7			

NOTE: Ref. No. enclosed in () indicate the parts that are used for RS-610USD.

Rank	Ref. No.	Description	Part No.	Pcs/ Set	Price (Per Pce.)		Remarks
C	C11, 12	Ceramic Capacitor	680 pF	ECKD1H681M	2		
C	C13, 14, 59, 60	"	330 pF	ECKD1H331M	4		
C	C15, 16	Mylar Capacitor	0.027 μ F	ECQM05273KZ	2		
B	C17, 18, 89, 91, 92, 95	Electrolytic Capacitor	100 μ F	ECEA25V100L	6		
C	C19, 20	Ceramic Capacitor	100 pF	ECCD1H101K	2		
C	C21, 22, 205, 206	"	0.0022 μ F	ECKD1H222K	4		
B	C23, 24	Electrolytic Capacitor	33 μ F	ECEA6V33L	2		
C	C27, 28	Mylar Capacitor	0.012 μ F	ECQM05123KZ	2		
B	C29, 30, 37, 38, 73, 74, 79, 80, 87, 88						
		Electrolytic Capacitor	3.3 μ F	ECEA25V3R3L	10		
B	C31, 32, 57, 58	"	47 μ F	ECEA6V47L	4		
B	C33, 34	"	100 μ F	ECEA6V100L	2		
C	C35, 36, 81, 82	Ceramic Capacitor	47 pF	ECCD1H470K	4		
B	C39, 40, 94	Electrolytic Capacitor	220 μ F	ECEA25V220L	3		
C	C47, 48	Mylar Capacitor	0.027 μ F	ECQM05273JZ	2		
C	C49, 50	"	0.0056 μ F	ECQM05562JZ	2		
C	C51, 52	"	0.0047 μ F	ECQM05472JZ	2		
C	C55, 56, 61, 62, 69, 70	Aluminum Capacitor	0.1 μ F	ECAG25ER1	6		
C	C65, 66, 83, 84	Mylar Capacitor	0.1 μ F	ECQM05104KZ	4		
C	C71, 72, 77, 78	Aluminum Capacitor	0.33 μ F	ECAG25ER33	4		
B	C75, 76	Electrolytic Capacitor	10 μ F	ECEA25V10L	2		
C	C85, 86	Mylar Capacitor	0.056 μ F	ECQM05563KZ	2		
B	C90	Electrolytic Capacitor	47 μ F	ECEA16V47L	1		
C	C93	Ceramic Capacitor	0.01 μ F	ECKD1H103P	1		
B	C96	Electrolytic Capacitor	1000 μ F	ECEA25V1000L	1		
B	C97	"	1000 μ F	ECEA16V1000L	1		
C	C98	Mylar Capacitor	0.022 μ F	ECQM05223KZ	1		(RS-610US only)
C	C201, 202	Ceramic Capacitor	0.0018 μ F	ECKD1H182K	2		
C	C203, 204	Styrol Capacitor	330 pF	ECQS1331KZ	2		
C	C207, 208	Ceramic Capacitor	27 pF	ECCD1H270K	2		
C	C209	Styrol Capacitor	0.0082 μ F	ECQS1822KZ	1		
C	C210, 212	Mylar Capacitor	0.018 μ F	ECQM05183KZ	2		
B	C211	Electrolytic Capacitor	1 μ F	ECEA50V1L	1		

NOTE : Ref. No. enclosed in () indicate the parts that are used for RS-610USD.

RS-610US
RS-610USD


Rank	Ref. No.	Description	Part No.	Pcs/ Set	Price (Per Pce.)		Remarks
		<u>TRANSISTORS</u>					
A	Tr1, 2, 3, 4	Transistor	2SC1327(S,T,U)	4			RS-276US, 279US
A	Tr5, 6	"	2SC644@ (S)	2			RS-715US
A	Tr7, 8, 9, 10, 11, 12, 13, 14, 17, 18, 19, 20, 21, 22	"	2SC828(R)	14			COMMON
A	Tr15, 16	"	2SA564(Q,R,S,T)	2			RS-276US, 279US
A	Tr23, 24, 25	"	2SC1347(P,Q,R)	3			(N)
A	Tr26, 27	"	2SK37(H)	2			RS-276US, 279US
		<u>SEMI CONDUCTORS</u>					
A	D1, 2, 7, 8, 11, 12	Diode	OA90Z	6			COMMON
A	D3, 4, 5, 6, 9, 10	"	1S1211	6			RQ-448FJS
A	D13	"	EQA0108(S)	1			(N)
A	D14, 15	Rectifier	SIB0102	2			(N)
		<u>THERMISTOR</u>					
B	TH1	Thermistor	TD5C310	1			(N)
		<u>TRANSFORMERS</u>					
A	T1, 2	Headphone Transformer	QLT2D5H	2			(N)
A	T3	Power Transformer	QLPN12ELEW	1			(N)
A	(T3)	"	QLPD7ELE	1			(N)
		<u>COILS</u>					
B	L1, 2, 5, 6, 7, 8	Coil	QLQX1032W	6			(N)
B	L3, 4	Filter Coil	QLH2021	2			RS-271US
B	L9	Oscillator Coil	QLB0153	1			RS-276US, 279US
B	L10	Choke Coil	ELQ4C1	1			RQ-435S, RS-262US
		<u>SWITCHES</u>					
B	S1, 2	Slide Switch (Record/Playback Selector)	QSS1110	1			RS-253S
B	S3	Lever Switch (Tape Selector)	QST0052S	1			(N) 
B	S4	Lever Switch (Dolby IN/OUT Selector)	QST0021S	1			RS-262US, 1030US 
B	S5	Push Switch (Power)	ESB1134S23	1			(N)

NOTE: Ref. No. enclosed in () indicate the parts that are used for RS-610USD.

Rank	Ref. No.	Description	Part No.	Pcs/ Set	Price (Per Pce.)		Remarks
B	(S5)	Push Switch (Power)	ESB7016	(1)			N
B	S6	Leaf Switch (Motor ON/OFF)	QSB0169B	1			RQ-309S, 413S, RS-260US, 263US
B	S7	Slide Switch (Muting)	QSS2204T	1			N
B	S8	Rotary Switch (AC Voltage Select)	QSR0005B	1			RQ-413S, 443S
		<u>JACKS</u>					
C	J1, 2, 5, 6, 8	LINE IN/OUT, DIN Socket	—	(5)			
C	J3, 4	Mic Jack	QJA0241A	2			N
C	J7	Headphone Jack	QJA0242	1			N
		<u>PILOT LAMPS</u>					
A	PL1, 2	Pilot Lamp	XAMQ16P100	2			N
A	PL3	Pilot Lamp (Record Indicator)	XAMQ22P100	1			N
		<u>ELECTRICAL PARTS</u>					
C	E1	Jack Board Angle	QMAM0041	1			N
C	E2	Jack Nut	QNQ1051	3			N
A	E3	VU Meter	QSL1050LN	2			N
C	E4	VU Meter Holder	QMAM0042A	1			N
C	E5	Lamp Cover	QGLM0004	2			N
C	E6	4P Lug Terminal	QJT4009	1			RS-263US
C	E7	Jack Board Assembly with J1, 2, 5, 6, 8	QGJM0010	1			N
C	(E7)	"	QGJM0011	1			N
B	E8	AC Power Cord	QFC1022	1			COMMON
B	(E8)	"	QFC1051	1			"
C	E9	Cord Bushing	QTD1126A	1			RQ-434S, RS-776S
C	(E9)	"	QBJ1425	1			RS-271US
A	E10	Record/Playback Head	WY445AZ	1			"
A	E11	Erase Head	QWY2118	1			RQ-448FJS, RS-451S
A	E12	Fuse Holder	QTF1032	1			RS-275US, 845US
A	(E12)	"	QTF1040	1			N
A	E13	Fuse (0.5 A)	XBA1E05NR1	1			RS-275US, 451S
A	(E13)	Fuse (315 mA)	XBAQ0006	1			RS-260US, 271US
C	E14	3P Lug Terminal	QJT3003	1			
C	(E14)	6P Terminal Plate	QJT6009	1			RS-263US


RS-610US
RS-610USD

NOTE: Ref.No. enclosed in () indicate the parts that are used for RS-610USD.

Rank	Ref. No.	Description	Part No.	Pcs/ Set	Price (Per Pce.)		Remarks
A	(E15)	Fuse (0.5 A)	XBAQ0003	2			RS-275US, 806US
		<u>CABINET PARTS</u>					
A	G1	Cassette Case Assembly	QYMM0013	1			N
C	G1-1	Cassette Lid Shaft	QNMN0002	1			N
C	G1-2	Stop Ring 3φ	XUC3FK	1			COMMON
B	G1-3	Cassette Lid Spring (Right)	QBNM0008	1			N
B	G1-4	Cassette Lid Spring (Left)	QBNM0009	1			N
B	G1-5	Cassette Lid Assembly	QYFM0020	1			N
C	G1-6	Screw ⊕2.6×6	XYN26+C6	1			COMMON
C	G1-7	Washer 2.6φ	XWG26A8	1			”
B	G1-8	Head Cover Lock Spring	QBPM0007	1			N
A	G1-9	Head Cover	QYRM0002	1			N
C	G2	Front Panel	QGPM0013A	1			N
B	G3	See-Saw Knob	QGTm0019	2			N
B	G4	Volume Knob Assembly	QYTM0016K	1			N *
B	G5	Balance Knob Assembly	QYTM0015K	1			N *
B	G6	Push Button Assembly	QYTM0017	1			N
B	(G6)	”	QYTM0018	1			N
C	G7	Back Board	QGPM0011	1			N
C	G8	Top Cover	QKFM0015K	1			N
C	G9	Bottom Plate	QMFM0005	1			N
C	(G9)	”	QMFM0004	1			N
C	G10	Tapping Screw ⊕3×8	XTB3+8B	6			COMMON
C	G11	”	XTB3+8BK	12			”
C	G12	Washer	XWG4E10FZ	4			”
C	G13	”	XWA43FZ	4			”
C	G14	Screw ⊕4×8	XBS4+8KS	4			” 
C	G15	Tapping Screw ⊕3×8	XTV3+8BR	6			”
C	G16	Rubber Foot	QKA1030	4			RS-802US, 810S
C	G17	Tapping Screw ⊕3×10	XTV3+10B	4			COMMON
		<u>ACCESSORIES</u>					
C	A1	Accessory Bag	QPW1125	1			COMMON
C	A2	Connection Cord	RP8125 (QEB0060P)	2			RS-260US, 263US

RS-610US
RS-610USD

NOTE: Ref. No. enclosed in () indicate the parts that are used for RS-610USD.

Rank	Ref. No.	Description	Part No.	Pcs/ Set	Price (Per Pce.)		Remarks
C	(A2)	DIN Cord	QEB0042P	1			RS-203S, 271US
C	A3	AC Plug Adaptor	QJP0603S	1			COMMON 
C	A4	Cassette Music Tape	QFT6TCJNTBFZ	1			RS-276US, 279US
C	A5	Instruction Book	QQT0684	1			N
C	(A5)	”	QQT0685	1			N
		<u>PACKINGS</u>					
C	P1	Inside Carton	QPNM0056	1			N
C	(P1)	”	QPNM0057	1			N
C	P2	Inner Cushion-R	QPAM0004	1			N
C	P3	Inner Cushion-L	QPAM0005	1			N
C	P4	Dust Cover	XZB50X60A05	1			RS-267US, 282S

RECOMMENDED STOCK OF REPLACEMENT PARTS

Rank of Part	Estimated Selling Q'ty of Tape Recorder Set					
	Less than 50	100	300	500	1,000	2,000
A rank Parts	2	5	15	20	40	80
B rank Parts	1	2	5	10	20	40
C rank Parts	0	1	3	5	10	20